SHARP SERVICE MANUAL

CODE: 00ZARNC5J/A1E

DIGITAL LASER COPIER/PRINTER OPTION
PRINT SERVER CARD

MODEL AR-NC5J
AR-NC5JG
AR-NC5JW

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Parts marked with "⚠" are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

SHARP CORPORATION

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[1] GENERAL

The AR-NC5J is a print server with Falcon 32bit RISC chip, which automatically switches between 10BASE-T/100BASE-TX, conforming to network protocols of TCP/IP (Windows95, Windows98, WindowsMe, WindowsNT4.0, Windows2000, UNIX), IPX/SPX (Netware), AppleTalk (Macintosh), and NetBEUI (Windows95, Windows98, WindowsMe, WindowsNT4.0, Windows2000). The 32bit CPU, together with the automatic switch of 10/100BASE, provides high-speed process. This server allows to share printers in a wide range of network environments from a small-sized network by means of NetBEUI to a large-scale network where two or more network protocols are intermingled.

[2] ENVIRONMENT

1. Items required for connection to a network

- Shield-type, twisted-pair cable (A cable of Category 5 is required for 100BASE-TX.)
- Printer

2. Network computer

- Windows95/98/Me/NT4.0/2000
  (One of TCP/IP, NetWare, or NetBEUI must be available.)
- UNIX
- NetWare
- Macintosh (AppleTalk must be available.)

[3] MAJOR FUNCTIONS

1. Functions

A. Automatic IP address setup by DHCP, BOOTP, RARP

(1) DHCP/BOOTP

The AR-NC5J, equipped with the DHCP/BOOTP protocols, allows to make setups related to TCP/IP in a network where a DHCP/BOOTP server is working.

By enabling the DHCP/BOOTP setup of the AR-NC5J, the information related to TCP/IP which is valid in the DHCP/BOOTP server can be set to the AR-NC5J.

- The DHCP protocol supported by the AR-NC5J basically conforms to RFC2131/2132. It conforms to Windows NT DHCP servers.
- To utilize the DHCP function of the AR-CN5J, consult the network manager.

(2) RARP

The AR-NC5J, equipped with the RARP protocol, allows to make setup of IP address in a network where a RARP server is working.

By enabling the RARP setup of the AR-NC5J, the IP address set in the RARP server can be assigned to the AR-NC5J.

B. IPP conformity (TCP/IP)

The AR-NC5J conforms to the Internet printing protocol (IPP Ver.1.0) which allows to print via the Internet. By using the IPP, it allows to print with a remote printer as well as Web access by HTTP.

C. WWW browser

The AR-NC5J, equipped with the HTTP server, can be accessed by a WWW browser to display the printer status or to change the printer setup.

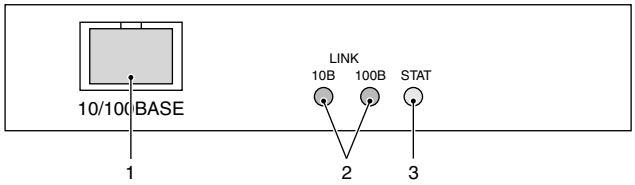
- For operations of HTTP, it is recommendable to use a WWW browser such as Internet Explore4.0 or later or Netscape Navigator4.0 or later. If another browser is used, it must at least conform to HTTP1.0 (RFC1945) or HTML2.0 (RFC1866).
- To use HTTP, the TCP/IP protocol setup of the AR-NC5J must be valid and the IP address of the AR-NC5J must be set.

2. Hardware specifications

CPU	FALCON 32bit RISC chip	
Memory	RAM	4Mbyte
	Flash ROM	1MByte
Network interface	10BASE-T/100BASE-TX	1 port (10/100BASE auto recognition)
Printer interface	Sharp's unique interface	
Other	LED lamp	Status 10Base LINK, 100Base LINK (3 pcs.)

[4] IDENTIFICATION OF EACH SECTION AND FUNCTIONS

1. Connector and LEDs



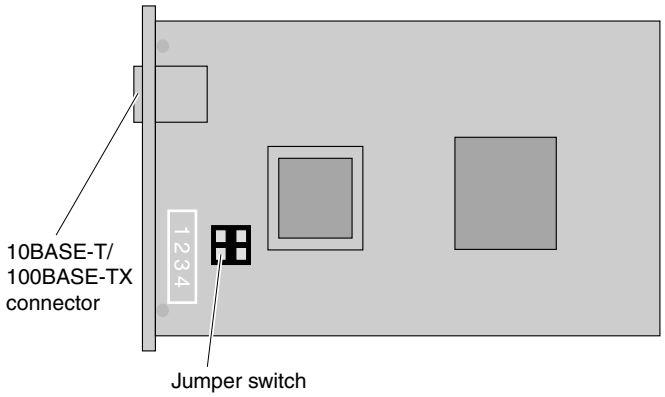
1	Connector for 10BASE-T/ 100BASE-TX	Connected with a shield-type, twisted-pair cable. (For 100BASE-TX environment, use a cable of Category 5.)
2	10BASE LINK LED (Green)	When a network connection is established in 10BASE-T, this lamp lights up.
	100BASE LINK LED (Green)	When a network connection is established in 100BASE-TX, this lamp lights up.
3	STATUS LED (Orange)	During communication, this lamp flashes.

<Status LED flashing cycle>

Content of operation	Lighting pattern	Cycle
Error detection	○—○— 0.2 sec	0.2sec/rapid flashing
Forcible loader mode	○—○— 1 sec	1sec/slow flashing Refer to [8]-4-(a).
Factory setup mode	○—○——— 0.6 sec	Repetition of 0.6sec/ 2times flashing

○ ON
— OFF

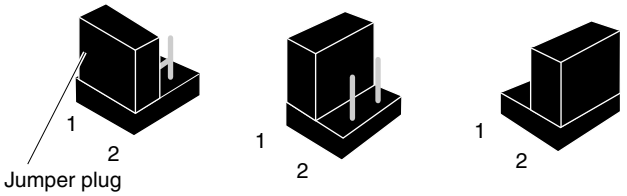
2. Jumper switches



The jumper switch has No. 1 and No. 2 pins, and ON/OFF is switched by the jumper plug.

When getting started, No. 1 pin is ON and the flash memory loader is started. When No. 2 is ON, the factory setting of the environmental variable is performed.

Jumper witch	ON	OFF
1	Forcible loader mode	Normal mode (When shipping)
2	Factory setup mode	Normal mode (When shipping)



Normal mode (When shipping) | Forcible loader mode | Factory setup

NOTE:

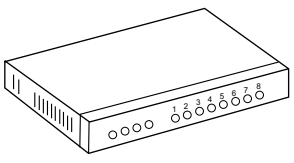
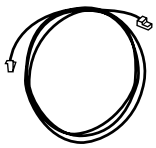
- When setting the jumper switch, be sure to turn off the power of the printer.
- For normal use, be sure to set No. 1 and No. 2 to OFF (Normal mode).
- The factory setup can be set by the utility or Telnet as well as the above jumper switch setup operations. Normally the utility or Telnet is used. Setting by the jumper switch is used only when the unit cannot make communication with the AR-NC5J.

[5] INSTALLATION

1. Connection to a network

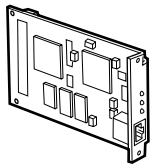
To connect the AR-NC5J to a network, the following items are required.

- For connection in the 100BASE-TX environment, a hub conforming to 100BASE-TX and a shield-type, twisted-pair cable (Category 5) are required.

	
Hub	Shield-type, twisted-pair cable

1) Check that the printer power is off, and connect the shield-type, twisted-pair cable to the 10/100BASE connector of the AR-NC5J.
2) Connect the other end of the cable to the hub.
3) Turn on the printer power, and check that the printer operates normally.

2. Parts included

		
Print server card: 1	Screws (silver) M3 x 8: 2	Spacers (unused): 2
CD-ROM: 1	Operation manual: 1	Installation manual: 1

3. Installation procedure

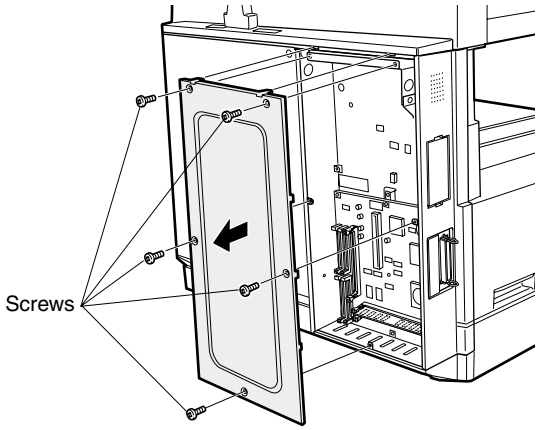
The AR-NC5J installing procedures in the AR-235/275 series are described.

In this case, no spacer is used in the packed items of the AR-NC5J.

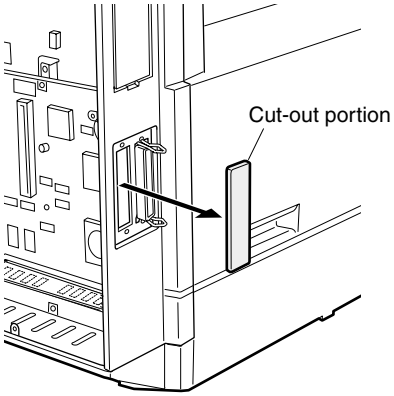
For the installing procedures of the AR-NC5J to another printer, refer to the printer's Service Manual or Installation Manual.

Turn off the main switch of the copier and then remove the power plug of the copier from the outlet.

1) Remove the shielding plate.
   Remove five screws and remove the shielding plate.

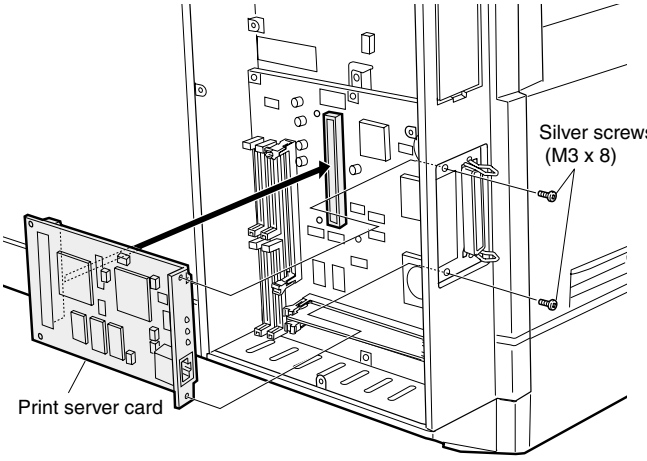


2) Cut and remove the cut-out portion from the left rear cabinet.
   Cut and remove the cut-out portion from the left rear cabinet using a tool such as nippers. (Be careful about the direction of the tool so that the cut surface is flat.)



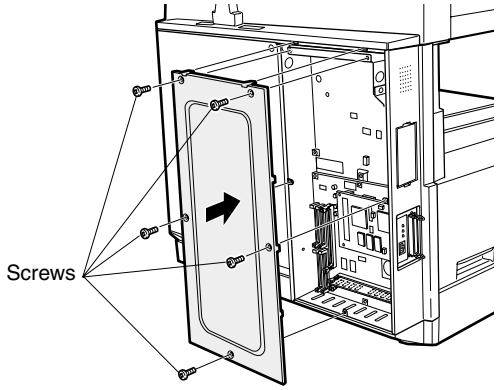
3) Attach the print server card.

Align the connector positions, connect the print server card, and then secure the card to the option mounting plate in the main unit using supplied two silver screws (M3 x 8).



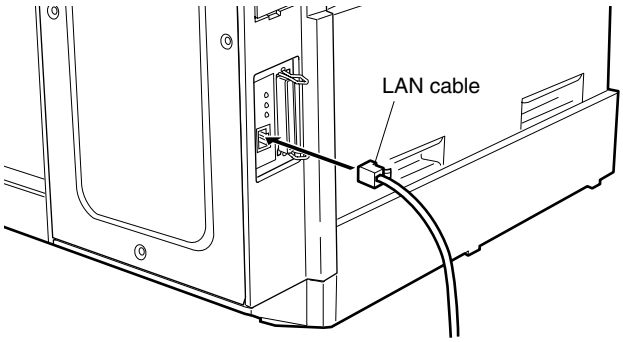
4) Reattach the shielding plate.

Reattach the shielding plate using five screws.



5) Connect the cable to the control PWB.

Connect a LAN cable to the connector of the print server card.



Insert the power plug of the copier to the outlet and turn on the main switch. Then, carry out the following procedure.

6) Check for the print server card.

Use the keys on the operation panel to print a configuration page. Check that the network interface card has been installed.

7) Check for printing.

Peform setup of the environmental variables. (refer to [6]-2)

(For installation of printer drivers on a computer and network settings (IP address input), see the supplied operation manual.)

Execute printing to check to see if printing can be executed properly.

[6] AR-NC5J STATUS CHECK

1. Printing the status page

The AR-NC5J status is checked by printing the status page.

A. Example of status page print

There are roughly two ways of printing the status page.

- Printing the status page is performed when starting the AR-NC5J.
  → Refer to the manual on the AR-NC5J setup.
- Perform printing of the status page from the operation panel of the printer.
  → Some printers may not support it. Refer to the Operation Manual of the printer.

* The same information as the status page print-out can be obtained from the utility Web page.

<Example of the status page>

```
Sharp AR-NC5J Version 1.0.0
Copyright(C) 2000 SHARP CORPORATION
Copyright(C) 2000 Japan Computer Industry Inc.

*** Network status report ***

[GENERAL]
model name          Sharp AR-NC5J
version             1.0.0
printer name
link status         100BASE-TX
duplex mode         HALF
Hardware addr       00:80:92:00:13:67
Status print        YES

[TCP/IP]
status              enabled
IP address          192.168.40.148
subnet mask         255.255.255.0
gateway             192.168.40.254

[NetWare]
status              enabled
packet type         802.2
network number      00000001
print mode          PSERVER
connected FS 0      EXACTION(Bindary)
NDS Tree            MH____
NDS context

[AppleTalk]
status              enabled
zone name           TEST01
type name           LaserWriter
object name         SC001367

[NetBEUI]
status              enabled
computer name       SC001367
workgroup name      Sharp-Printer
master browser      SC001367
```

2. AR-NC5J setup items

After completion of installation, perform setup of the environmental variables. Explanations on the variables are given below.

A. General

Name			Factory setup	Descriptions
Telnet	Web page	NIC Manager		
Change root Password	Change Admin password	Admin Password	Sharp	The administrator password of the AR-NC5J is set with ASCII character codes. This password is used for identification when changing setup by Telnet, a Web page, or a setup utility. Remark: Indicated as "*" for security.
Print status after Boot-up	Print status after Boot-up	Print status after Boot-up	NO	When booting the AR-NC5J, select whether to print the status page or not.

B. TCP/IP and related items

Name			Factory setup	Descriptions
Telnet	Web page	NIC Manager		
TCP/IP Protocol	TCP/IP Protocol	TCP/IP protocol is used.	ENABLE	Used to enable/disable TCP/IP protocol. This setup will affect the operations of LPR, FTP, TELNET, SNMP, HTTP, and the setup utility (for TCP/IP).
DHCP/BOOTP	DHCP/BOOTP	DHCP/BOOTP is used.	ENABLE	Used to enable/disable the operation of DHCP/BOOTP protocol. The DHCP/BOOTP protocol acquires an IP address from the DHCP server or the BOOTP server when booting. To set an IP address of the AR-NC5J, a DHCP server or a BOOTP server which has been properly set should be operating in the sub network. The AR-NC5J automatically recognizes DHCP and BOOTP, and employs as its address whichever replies to it first.
RARP	RARP	RARP is used.	ENABLE	Use to disable/enable the RARP protocol operation. The RARP protocol acquires an IP address from the RARP server. To set an IP address of the AR-NC5J by RARP, the RARP server which has been properly set should be operating in the sub network.
IP Address	IP Address	IP Address	0.0.0.0	Used to set an IP address of the AR-NC5J. The set value is in the form of decimal number of "xxx.xxx.xxx.xxx."
Subnet Mask	Subnet Mask	Subnet Mask	0.0.0.0	Used to set the subnet mask of the AR-NC5J. The set value is in the form of decimal number of "xxx.xxx.xxx.xxx." When "0.0.0.0" is set, this item is disabled, and the subnet mask corresponding to the IP address is automatically used.
Default Gateway	Default Gateway	Default Gateway	0.0.0.0	Used to set an IP address of the gateway. The set value is in the form of decimal number of "xxx.xxx.xxx.xxx." The gateway must exist in the same sub network as the AR-NC5J. When "0.0.0.0" is set, this item is disabled.
Use FTP/LPD Banner	Use FTP/LPD Banner	Use FTP/LPD Banner	NO	Used to set whether to output the banner page when printing with LPR or FTP.

C. NetWare and related items

Name			Factory setup	Descriptions
Telnet	Web page	NIC Manager		
Netware Protocol	Netware Protocol	Use Netware Protocol.	ENABLE	Used to disable/enable the NetWare protocol operation. This setup will affect the operations of the print server, the remote printer, and the setup utility (for IPX/SPX).
Frame Type	Frame Type	Frame Type	802.2	Used to set the default frame type which is used by the AR-NC5J. If the set frame type does not work, another frame type is automatically selected.
Operation Mode	Operation Mode	Operation Mode	PSERVER	Used to set the priority operation mode (print server/remote printer) of the AR-NC5J. If the set mode does not work, another mode is automatically selected and tried.
Printer Name	Printer Name	Printer Name	"SCxxxxxx-prn1" (xxxxxx is the lower 6 digits of Mac address.)	Used to set the printer name which is registered in the print server information in the NetWare server. This setup must be identical to the setup of the printer name registered in the NetWare server.
Print Server Name	Print Server Name	Print Server Name	"SCxxxxxx" (xxxxxx is the lower 6 digits of Mac address.)	Used to set the print server name when the AR-NC5J is booted in the print server mode. Since this setup is used as an identification element in a network with the NetWare protocol, it must be different from the other NetWare product names. It is used as the login name to log in the NetWare server.

Name			Factory setup	Descriptions
Telnet	Web page	NIC Manager		
Login Password	Login Password	Login Password	No (No password)	Used to set the password authenticated when the AR-NC5J logs in the file server as a print server. The password can be set in max. 31 characters. However, it is not recommendable to use Chinese characters and Katakana character in a password. When a password is set for the AR-NC5J, the same password must be set to the corresponding file server. (Setup of a password on the file server is made from "Print server information.") When connecting to two or more file servers, the same password must be set to all of them. *Note: The AR-NC5J uses a null character array for the default password. That is, even though a password is set to the AR-NC5J and no password is set to the print server information (a null character array is set), connection and printing are allowed. This, however, is an exceptional process. In the normal process, the password set to the AR-NC5J must be identical to that for the print server information.
Job Polling (sec)	Job Polling interval (sec)	Job Polling interval	4	Used to specify the time interval (sec) between job inquiries from the AR-NC5J to the filer server. Normally there is no need to change the default setup, 4sec.
Bindary Mode	Bindary Mode	Bindary setup	ENABLE	Used to disable/enable the bindary mode operation. When disabled, only the NDS mode operation is valid. This is set to DISABLE only when only the NDS mode is used.
FSERVER Name 1 – 8	File server name 1 – 8	Filer server name to be connected	""	Used to set the priority file server name with max. 31 characters. When operating in the print server mode, the file server specified in this setup is logged in. If this setup is empty, the AR-NC5J automatically retrieves a file server to log in.
NDS Tree	NDS Tree name	NDS Tree name	""	Used to set the NDS tree to be connected. Since it is automatically acquired, there is no need to set in normal cases. If there are two or more trees in a network, it must be set.
NDS Context	NDS Context	NDS Context	""	Used to set the NDS context connected in the print server mode. In this item, the context which formed the print server on the file server is set.
PSERVER Name 1 – 8	Print Server name 1 – 8	Print Server name to be connected	""	Used to set the print server name to be connected in priority. When operating in the remote printer mode, connection is made to the print server set in this setup. If this setup is empty, the AR-NC5J automatically retrieves a print server to connect.
Job Timeout (sec)	Job Timeout (sec)	Job Timeout	10	Used to set the timeout for the AR-NC5J to judge the completion of a job when operating in the remote printer mode. Usually the default value is used.

D. AppleTalk and related items

Name			Factory setup	Descriptions
Telnet	Web page	NIC Manager		
AppleTalk Protocol	AppleTalk Protocol	Use AppleTalk Protocol.	ENABLE	Used to disable/enable the AppleTalk protocol operation.
Zone Name	Zone Name	Zone Name	"*"	Used to set the zone name which the AR-NC5J belongs to. If this setup is "*", The AR-NC5J belongs to the default zone set in the AppleTalk router in the network.
Printer Name	Printer Name	Printer Name	"SCxxxxxx" (xxxxxx is the lower 6 digits of Mac address.)	Used to set the AppleTalk printer name. The set printer name is visible from the selector. The special codes (=:@*) of the AppleTalk protocol cannot be used in this character array.

E. NetBEUI and related items

Name			Factory setup	Descriptions
Telnet	Web page	NIC Manager		
NetBEUI Protocol	NetBEUI Protocol	Use NetBEUI Protocol.	ENABLE	Used to disable/enable the NetBEUI protocol operation.
Computer Name	Computer Name	Computer name	"SCxxxxxx" (xxxxxx is the lower 6 digits of Mac address.)	Used to set the computer name. The set name is displayed in Window's Explorer. The name must be different from the other computer names.
Work Group	Work Group	Work Group	"Sharp-Printer"	Used to set the work group which the AR-NC5J belongs to. Use the default work group name or an existing work group name. A new work group name which does not exist in the network cannot be displayed as a work group.
Comment	Comment	Comment	"Sharp AR-NC5J"	Used to set the comment on the AR-NC5J. The set contents are displayed as the comment on the AR-NC5J by Window's Explorer.

[7] TROUBLESHOOTING

1. Obstacles to introduction

A. Test print is not outputted.

Check that the printer is ready for printing. (Online/Offline, etc.)

Check that the data reception lamp of the printer is on. If it is on, turn it off and press the paper exit button to discharge paper.

2. Obstacles in Windows environments (TCP/IP)

A. NICManager retrieval cannot find out the AR-NC5J.

Check that the network cable is properly connected.

In the NICManager menu bar "Option", select "Search by TCP/IP" and perform retrieval.

B. Printing cannot be made.

Check that the network cable is properly connected.

When the TCP/IP protocol is used, check that there is a reply of ping for the IP address assigned to the AR-NC5J.

Check that the printer JOB lamp is on. If it is on, turn it off and press the paper exit button to discharge paper.

3. Obstacles in Windows environments (NetBEUI)

A. Work Group of "Sharp Printer" is not found in the entire network.

Check that the network group is properly connected.

Check the network setup of Windows.

It may take several minutes to find the work group in the network.

4. Obstacles in NetWare environments

A. NICManager retrieval cannot find out the AR-NC5J.

Check that the network cable is properly connected.

In the NICManager menu bar "Option", select "Search by IPX/SPX" and perform retrieval.

B. Cannot connect to the NetWare server in the remote printer mode.

Check that the packet type and the NetWare operation mode are proper.

The AR-NC5J switches automatically, however it may take some time depending on the use environment.

Check that the print server which the AR-NC5J is registered in is normally working in the NetWare server.

Check that the print server name is properly set. If the print server name registered in the AR-NC5J is specified, check that the print server name is identical to what is working on the file server.

Do not use a same port name in different products.

C. Cannot connect to the NetWare server in the print server mode.

Check that the packet type and the NetWare operation mode are proper.

The AR-NC5J switches automatically, however it may take some time depending on the use environment.

When a file server is specified to the AR-NC5J, check that the name of the file server which is used is identical to the set name.

Check that the printer port name is properly set. Check that the printer port name set to the AR-NC5J is identical to the printer port name set to the NetWare server. If there are two or more units of the AR-NC5J, do not use the same name for different AR-NC5J, and do not use the same port name for different ports.

Check that the NetWare login password is correct.

Check that the machine name is identical to the print server name.

D. Printing cannot be performed.

Check that the network cable is properly connected.

Check that the printer job lamp is on. If it is on, turn it off and press the paper exit button to discharge.

5. Obstacles in Macintosh environments

A. Not recognized with the selector.

Check that the network cable is properly connected.

When there is a zone in the network, check that the selector connects to the proper zone (which the printer is connected to) and check that the zone name is the same as what is set by a utility, etc.

Check that the printer conforming to the printer is selected.

Check that the AppleTalk indicated at the right lower side of the selector is set to "Use."

Check that "AppleTalk (*1) (Network)(*2) setup is proper to the use environment.

*1: In the case of AppleTalk

Check that "Ethernet" is selected. When an AppleTalk router is used to connect the AR-NC5J with LocalTalk, check that "Printer port" or "MODEM port" is selected.

*2: In the case of Network

Check that "Ethernet" is selected. When an AppleTalk router is used to connect the AR-NC5J with LocalTalk, check that "LocalTalk" is selected.

Print the setup contents and check that the AppleTalk protocol is not disabled. Setup can be made by using Telnet, Windows utility, or setup utility for Macintosh.

Print the setup content and check that the printer name is not empty.

B. When printing, "Insufficient memory" is displayed and printing cannot be made./When printing, only Chinese characters are printed or blank paper is outputted.

It may be caused by insufficient memory capacity for the application. Click the icon of the using application, select "See information" in the file menu, and increase the use memory size of the application.

Terminate the other applications which are acting.

Increase the starting disk capacity.

[8] FLASH ROM VERSION UP PROCEDURE

1. Operating environment

The version up tool requires the operating environment of Windows95/98/Me/NT/2000.

- In the Windows NT/2000 environment, communication is performed by use of the IPX/SPX protocol. So the IPX/SPX protocol must be installed.
- In the Windows 95/98/Me environment, both the packet driver and the IPX/SPX protocol are retrieved for use of communication, and an available communication means is used to perform uploading. (If both are available, the IPX/SPX protocol has priority.)

If the IPX/SPX protocol is available and there is a NetWare server in the environment, a network number may be obtained from the NetWare server to allow communication (retrieval and upload) with a print server card which is outside of the router. In the other environments, communication with a device outside the router cannot be made.

2. Making of execution environment

The version up tool is provided in a form of self-extracting compression files. You may extract necessary files in your desired folder without any special installing program.

For multi language use, the self-extracting file is provided in each language. The tool is not provided with a UI for selection of language.

In addition, one PC cannot operate two or more displays simultaneously.

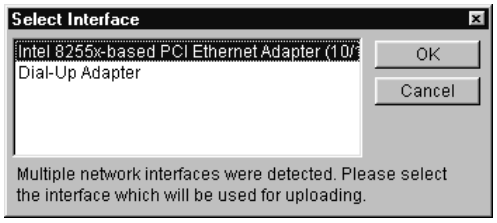
3. Procedures

A. Establishment of communication means

(In the case of Windows 95/98/Me)

When the tool is executed, if two or more network adapters are installed, the network adapter selection menu is displayed. Select the Ethernet network adapter in this menu and press the OK key, retrieval will be executed. If, however, initialization of the packet driver is failed with the selected network adapter, the machine returns to the network adapter selection menu. Pressing the CANCEL key terminates the tool operation.

When only one network adapter is installed, this selection menu is not displayed.


Select Interface
Intel 8255x-based PCI Ethernet Adapter (10/
Dial-Up Adapter
OK
Cancel
Multiple network interfaces were detected. Please select the interface which will be used for uploading.

Network adapter selection menu

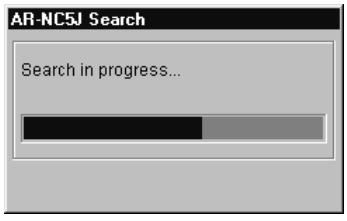
(In the case of Windows NT/2000)

When this tool is executed, installation of the IPX/SPX protocol is checked. If the IPX/SPX protocol is not installed, the error message is displayed and the tool is terminated. If installed, retrieval is performed.

Error
This program does not work in WindowsNT/2000 environment where IPX protocol is not installed.
Install IPX protocol or execute in Windows95/98/Me environment.
OK

IPX not-installed error message

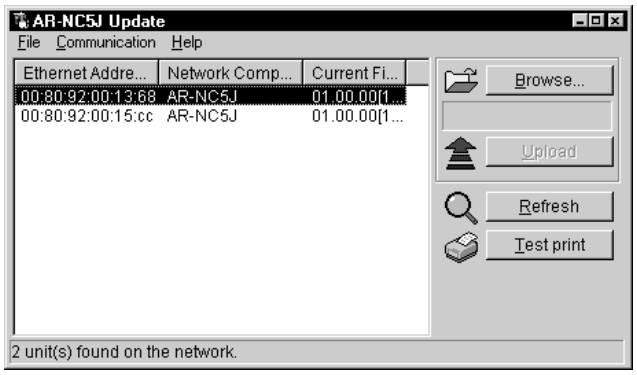
When the communication means is established, as described above, the tool retrieves for the AR-NC5J installed in the network. During retrieval, the process status bar is displayed.



Retrieval process status display

B. Main menu

When retrieval is completed, the main menu of the tool is displayed, and the list of retrieval results is displayed.



Main menu

Clicking the heading of the list changes the sort conditions.

When a BIN file name is selected, it is displayed in the column below the Browse button.

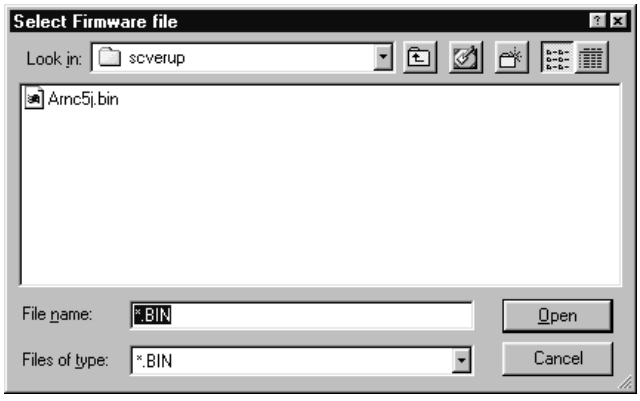
The menu is composed as shown in the table below. The names in [ ] show buttons of the same function on the main menu.

Group name	Sub menu name	Function
File	Open [Browse]	Displays the file selection dialog to select and change a BIN file to write into.
	Refresh [Refresh]	Retrieves a printer on the network and revises the list.
	Exit	Terminates the program.
Communication	Upload [Upload]	Starts writing of the Bin file to the selected printer.
	Test print [Test print]	Sends the test print command to the selected printer to perform test printing.
	Options	Opens the option setup dialog.
Help	About	Opens the version information display.

C. File selection dialog

In the main menu, select FILE a OPEN or press the Browse button, and the file selection dialog will be opened. Select a BIN file to write into the AR-NC5J.

If a BIN file which is not for the AR-NC5J is selected, an error occurs.



File selection dialog

D. Firmware upload

Select a desired printer from the list and a Bin file. Under this condition, select COMMUNCIATION a UPLOAD or press the UPLOAD button, and the firmware will be uploaded. There are following three patterns of writing procedures:

1) Single selection

When only one printer is selected from the list on the main menu:

First the upload start confirmation display is shown. Selecting YES in this menu deletes the firmware and starts uploading. During uploading, the process indication bar is displayed on the firmware upload menu.

After completion of uploading, the firmware upload menu is closed and the control returns to the main menu.

2) Plural selection (without confirmation)

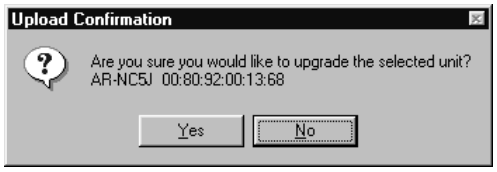
When two or more printers are selected from the list on the main menu, and a check mark is not put to "When uploading to multiple units, display a confirmation prompt for each unit."

In this case, the upload start confirmation menu is displayed only once when starting the first writing. Selecting YES in this menu starts writing the firmware to the selected printers continuously. The operations during and after writing are the same as "Single selection."

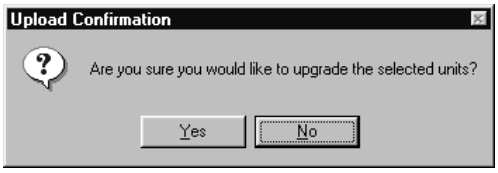
3) Plural selection (with confirmation)

When two or more printers are selected from the list on the main menu, and a check mark is put to "When uploading to multiple units, display a confirmation prompt for each unit."

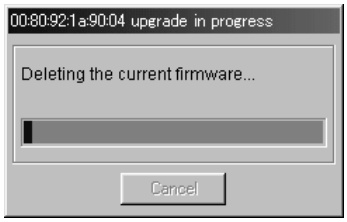
In this case, the upload start confirmation menu is displayed and delete/uploading of the firmware is made for each of the selected printers. (This series of operations is repeated for each printer.) If NO is selected in the confirmation menu, uploading is not performed and the control goes to the confirmation menu of the next printer. The operations during and after writing are the same as "Single selection."



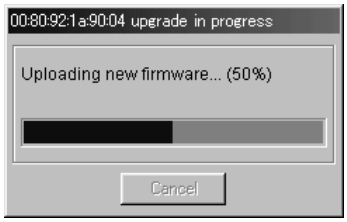
Upload start confirmation menu
(Single selection/Plural selection (with confirmation))



Upload start confirmation menu
(Plural selection (without confirmation))



Firmware delete menu



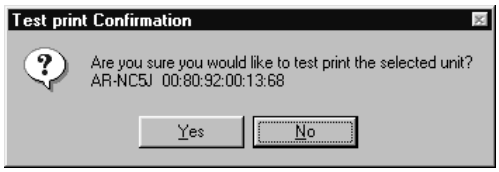
Firmware upload menu

E. Test print

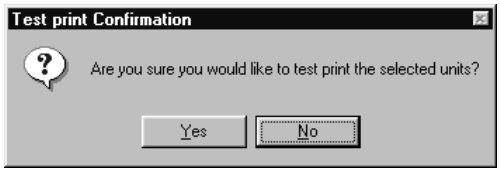
After selecting a desired printer from the list, select COMMUNICATION a TEST PRINT on the menu or press the TEST PRINT button, and the test print of the selected printer will be performed. This function is used for troubleshooting.

Similarly to the firmware uploading, there are three patterns: Single selection, Plural selection (without confirmation), and Plural selection (with confirmation).

If the test print packet that is sending fails, an error message is displayed. (Refer to "5. Error message list." In the case of normal completion, no message is displayed.



Test print confirmation menu
(Signal selection/Plural selection (with confirmation))



Test print confirmation menu
(Plural selection (without confirmation))

<Example of TEST PRINT>

```
Sharp AR-NC5J Version 01.00.01
Copyright(C) 2001 SHARP CORPORATION
Copyright(C) 2001 Japan Computer Industry Inc.

*** Diagnostic report ***
   ROM Check : Ok  stat: B744 FFFF 0000 0000
   RAM Check : Ok  stat: 0000 0000 0000 0000
   NIC Check : Ok  addr: 00:80:92:00:15:0F   100BASE-TX
EEPROM Check : Ok  stat: 7816 7816 0000 0000

      JUMP-1 : OFF(ON:Test use only)
      JUMP-2 : OFF(ON:Initialize configuration)
```

4. Notes during/after uploading

During and after uploading, take care of the following notes:

(a) During uploading, the printer power should not be turned off and the network cable should not be disconnected. If they should, uploading will not performed normally and the firmware will be broken.

If the firmware should be broken due to an accident during uploading, retrieval by the version up tool may not be responded. In such a case, reboot the printer with the jumper switch No. 1 at ON, and the network card will be booted in the forcible loader mode to make responding to retrieval.

This operation is performed similarly to both cases when the IPX/SPX protocol is used and when the packet driver is used. There are no limitations.

(b) When the composition of the setup information differs between different versions before and after uploading, the content of setup may be broken after completion of uploading. (This information will be given with version-up bin file.)

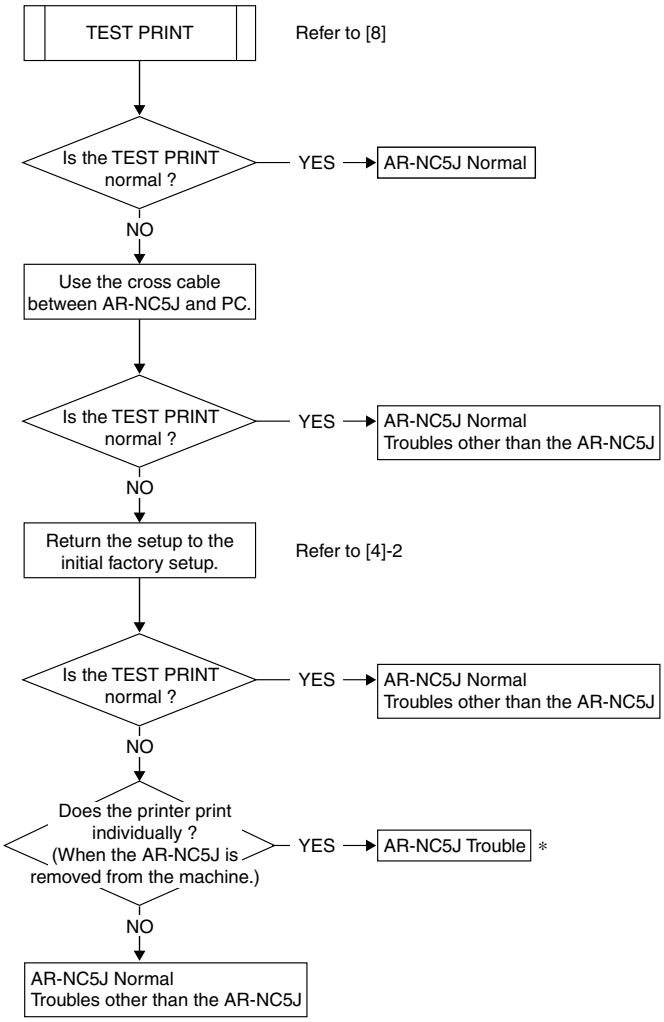
In such a case, the setup shadd be returned to the initial factory setup. Then use the setup tool and a Web browser to make setup again.

5. Error message list

The table below shows the error messages list of the version up tool.

Error message	Occurring conditions
Invalid firmware file. Select a correct file.	The Bin file of the selected firmware was improper. (Example: A BIN file of other unit than the AR-NC5J was selected.)
Can't operate more than 32 units at the same time.	Printers of over 32 units were selected and Uploading or test print was performed
Upload failed.	A communication error occurred during uploading.
Failed starting communication with XX:XX:XX:XX:XX:XX.	Immediately after completion of firmware uploading, the printer could not enter the loader mode.
No response after sending the commands to XX:XX:XX:XX:XX:XX.	After sending the test print command, there was no response from the AR-NC5J.
Timeout time is not available.	A value other than 1 - 99 or a character is entered for time out setup.
Failed to initialize packet driver.	Initialization of the packet driver failed when a single network adapter was installed under Win95/98/Me environment.
Failed to initialize packet driver. Do you want to use other network adapter?	Initialization of the packet driver failed in an adapter after selecting the adapter when plural network adapters were installed under Win95/98/Me environment.
This program does not work in WindowsNT/2000 environment where IPX protocol is not installed. Install IPX protocol or execute in Windows95/98/Me environment.	The version up tool was executed under Windows NT/2000 without installing the IPX/SPX protocol.

6. Check for defectiveness of the AR-NC5J



* If there is another printer than those which conform to the AR-NC5J, install the AR-NC5J to be checked, and perform the same procedures to check.

CAUTION FOR BATTERY REPLACEMENT

(Danish) ADVARSEL !
Lithiumbatteri –Eksplosionsfare ved fejlagtig håndtering.
Udskiftning må kun ske med batteri
af samme fabrikat og type.
Levér det brugte batteri tilbage til leverandoren.

(English) Caution !
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type
recommended by the manufacturer.

"BATTERY DISPOSAL"
CONTAINS MANGANESE DIOXIDE LITHIUM BATTERY
MUST BE DISPOSED OF PROPERLY.
REMOVE THE BATTERY FROM THE PRODUCT AND
CONTACT FEDERAL OR STATE ENVIRONMENTAL
AGENCIES FOR INFORMATION ON RECYCLING
AND DISPOSAL OPTIONS.

"BATTERY DISPOSAL"
CONTAINS LITHIUM-ION BATTERY.
MUST BE DISPOSED OF PROPERLY.
REMOVE THE BATTERY FROM THE PRODUCT AND
CONTACT FEDERAL OR STATE ENVIRONMENTAL
AGENCIES FOR INFORMATION ON RECYCLING
AND DISPOSAL OPTIONS.

(Finnish) VAROITUS
Paristo voi räjähtää, jos se on virheellisesti asennettu.
Vaihda paristo ainoastaan laitevalmistajan suosittelemaan
tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden
mukaisesti.

(French) ATTENTION
Il y a danger d'explosion s' il y a remplacement incorrect
de la batterie. Remplacer uniquement avec une batterie du
même type ou d'un type équivalent recommandé par
le constructeur.
Mettre au rebut les batteries usagées conformément aux
instructions du fabricant.

(Swedish) VARNING
Explosionsfara vid felaktigt batteribyte.
Använd samma batterityp eller en ekvivalent
typ som rekommenderas av apparattillverkaren.
Kassera använt batteri enligt fabrikantens
instruktion.

(German) Achtung
Explosionsgefahr bei Verwendung inkorrekter Batterien.
Als Ersatzbatterien dürfen nur Batterien vom gleichen Typ oder
vom Hersteller empfohlene Batterien verwendet werden.
Entsorgung der gebrauchten Batterien nur nach den vom
Hersteller angegebenen Anweisungen.

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